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Original Research

Evaluation of body image perception, depression and anxiety in patients with severe acne vulgaris

Acne vulgaris and psychological characteristics

Selma Pekgör[1], Orhan Külahçı[2], Hümeyra Yaka[3], İbrahim Fuat Kayıhan Kaya[4], Mehmet Ali Eryılmaz[5]
[1] Department of Family Medicine, Konya City Hospital
[2] Department of Dermatology, Medicana Private Hospital
[3] Department of Family Medicine, Family Health Center Number 48, Selçuklu District Health Directorate
[4] Department of Family Medicine, Beyşehir State Hospital
[5] Department of General Surgery, Konya City Hospital, Konya, Turkiye

Abstract

Aim: The aim of this study was to evaluate the severity of the disease, depression, anxiety, body image perception and self-esteem in patients with acne vulgaris (AV) who had been treated before and those who had never been treated before.

Material and Methods: 252 patients aged between 18-35 years who applied to the dermatology outpatient clinic for AV were included. Data were obtained using the Global Acne Assessment System, Sociodemographic Data Form, Beck Depression Scale (BDS), Beck Anxiety Scale (BAS), Rosenberg Self-Esteem Form (RSE) and Body Image Perception Scale Forms (BIPS).

Results: Male gender was significantly higher in patients with severe AV ($P<0.001$). BDS and BAS were significantly higher in patients with mild/moderate AV than in patients with severe AV ($P=0.008$,$P=0.010$ respectively). BIPS was significantly higher in patients with severe AV than in patients with mild/moderate AV ($P=0.005$). In patients with no previous treatment, BAS was higher in the mild/moderate AV group than in the severe AV group, while BIPS was significantly higher in the severe AV group ($P=0.027$, $P=0.001$, respectively).

Discussion: BDS and BAS were higher in patients who had not history of AV treatment than in patients with a history of AV treatment, and BIPS was higher in patients who did not receive treatment than in patients with a history of treatment. Knowing that patients who have not received previous treatment for AV have higher depression, anxiety and lower body image perception may be useful in earlier psychological intervention.

Keywords

Acne Vulgaris, Depression, Anxiety, Body Image Perception

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Corresponding Author: Hümeyra Yaka, Department of Family Medicine, Family Health Center Number 48, Selçuklu District Health Directorate, Konya, Turkiye.
E-mail: humeyracobanoglu@hotmail.com P: +90 505 595 09 62
Corresponding Author ORCID ID: https://orcid.org/0000-0002-4973-1774
Other Authors ORCID ID: Selma Pekgör, https://orcid.org/0000-0001-9907-1842 · Orhan Külahçı, https://orcid.org/0000-0002-1997-4310
İbrahim Fuat Kayıhan Kaya, https://orcid.org/0000-0001-7657-9926 · Mehmet Ali Eryılmaz, https://orcid.org/0000-0002-5280-3943

This study was approved by the Ethics Committee of Health Sciences University Konya Training and Research Hospital (Date: 2018-01-02, No: 12-05)

Introduction

Acne vulgaris (AV) is a chronic inflammation of the pilosebaceous follicles characterised by comedones, papules, pustules, nodules and scars [1, 2]. The global prevalence of AV, which is known as a risk factor for psychiatric disorders that can be seen at any age, has been shown to be 9.4% [3, 4]. While the prevalence of depression in the general population is known to be 5-10%, many studies have shown that the prevalence of depression is higher in AV patients [1, 5, 6]. However, it is controversial whether there is a relationship between AV severity and depression. Although there are studies showing a significant relationship between AV severity and depression, there are also studies showing that anxiety is higher in patients with moderate AV [1]. On the other hand, Öztürk et al. did not find any difference between anxiety and depression scores in patients with mild and severe AV.

Body image perception is a representation of how attractive one's own body feels in the context of friends, family and other social relationships [7]. It has been previously shown that body image perception is low in patients with AV [8]. Yoqub et al. showed that body perception was significantly lower in male AV patients compared to females [7]. Self-esteem is defined as "a reasonable or justified sense of one's worth or importance" and the Rosenberg scale is used as a self-esteem scale [9]. Many studies have shown that AV is associated with decreased self-esteem [9, 11].

The aim of this study was to evaluate the severity of illness, depression, anxiety, body image perception and self-esteem in previously treated and never treated AV patients. Our hypothesis is that patients who have not been admitted to the hospital before and who have not received treatment may be more depressed, more anxious and have lower body image perception and self-esteem than patients who have received treatment before.

Material and Methods

The study included 252 patients between the ages of 18-35 years who applied to the dermatology outpatient clinic of ***** hospital for AV between January 2018 and December 2018. The patients volunteered to participate in the study after being given detailed information about the study and signed the informed consent form. The exclusion criteria were patients under 18 years of age and over 35 years of age, patients with a history of comorbidities, and patients with a history of psychiatric treatment.

Data collection:

The data were obtained using the Global Acne Assessment System, Sociodemographic Data Form, Beck Depression Scale, Beck Anxiety Scale, Rosenberg Self-Esteem Form and Body Image Perception Scale Forms.

Global Acne Grading System: It is a system that classifies the severity of acne vulgaris according to the distribution of acne on the body and the type of lesions (papule, pustule, comedone, nodule). Classification is made as mild, moderate and severe AV with the score obtained[12].

Sociodemodigraphic Form: It consists of 19 questions related to individual variables such as age, gender, occupation, monthly income, educational status, marital status, smoking-alcohol use and disease history.

Beck Depression Scale: In this scale defined by Beck et al. 21 symptom categories are evaluated. A high total score is associated with the presence and severity of depression [13].

Beck Anxiety Scale: In this scale by Beck et al. 21 symptom categories are evaluated and the patient is asked how much the feeling of distress disturbs the patient with the questions asked to the patient [14].

Rosenberg Self-Esteem Scale: This scale, defined by Rosenberg, consists of 63 items and subjects can score between 0 and 6 on this scale, and an increase in the score on the scale indicates a decrease in the level of self-esteem [15].

Body Image Perception Scale: This scale, defined by Cash, consists of 26 items and assesses how attractive one's own body feels in the context of friends, family and other social relationships [7].

Statistical analysis

Data analysis was presented with descriptive statistics, frequency, percentage, mean and standard deviation values. Socio-demographic information, Beck Depression Scale scores, Beck Anxiety scores, Rosenberg Scale scores and Body Image Perception Scale scores of the patients participating in the study were evaluated in terms of AV severity and the status of previous application and treatment for AV. T test, Mann Whitney U test and analysis of variance were performed to examine these relationships. In the study, p values less than 0.05 were considered statistically significant. Analyses were performed with SPSS 22.0 package programme.

Ethical approval

This study was approved by the Ethics Committee of Health Sciences University Konya Training And Research Hospital (Date: 2018-01-02, No:12-05).

Results

The mean age of the patients was 21.7±3.2 years (18-33) and the patients consisted of 220 females and 32 males. The

Table 1. Demographic information of patients (M: male, F: female, SD: standart deviation)

Parameter	Severity of Acne Vulgaris		
	Mild/Moderate	Severe	P value
Patient Number (n)	164	88	
Age (Years)±SD	21.9±3.2	21.2±3.1	0.110
Gender (M/F)	9/155	23/65	<0.001*
Level of education			
· Primary School (n)	14	5	0.811
· High School (n)	34	25	
· University (n)	116	58	
Duration of Illness (Year) (mean±SD)	4.5±2.6	4.9±2.9	0.413
Body Mass Index (Mean±SD)	21±2.7	21.4±2.9	0.247
Global Acne Grading System Score (Mean±SD)	21.9±4.1	33.5±2	<0.001*
Beck Depresyon Scale score(Mean±SD)	11.9±10	8.9±7.6	0.008*
Beck Anksiyete Scale score (Mean±SD)	12.6±10.5	9.2±8.9	0.010*
Body Image Perception score (Mean±SD)	141.5±27.1	152±28.9	0.005*
Rosenberg Self-esteem score (Mean±SD)	1.15±0.8	1.02±0.7	0.208

Table 2. Comparison of patients with mild/moderate AV and patients with severe AV in terms of Beck Depression Score, Beck Anxiety Score, Rosenberg Self-Esteem Score, and Body Image Perception Score after the patients were divided into patients with and without previous treatment. (AV: acne vulgaris)

	No Previous Treatment			Received Previous Treatment		
	Mild/moderate AV	**Severe AV**	**P value**	**Mild/moderate AV**	**Severe AV**	**P value**
Beck Depression Score	11.7±9.6	9.1±7.7	0.064	12.2±10.6	8.5±7.3	0.059
Beck Anxiety Score	12.6±10.9	9.1±8.8	0.027*	12.7±9.9	9.5±9.1	0.156
Rosenberg Self-Esteem Score	1.13±0.7	0.99±0.8	0.227	1.17±0.9	1.08±0.8	0.642
Body image perception score	140.2±27.2	154.4±23.2	0.001*	143.4±27	146.3±39.4	0.680

Table 3. Comparison of patients with mild/moderate AV and patients with severe AV in terms of Beck Depression Score, Beck Anxiety Score, Rosenberg Self-Esteem Score, and Body Image Perception Score after the patients were divided into male and female genders

	Female			Male		
	Mild/moderate AV	**Severe AV**	**P value**	**Mild/moderate AV**	**Severe AV**	**P value**
Beck Depression Score	12.3±10.1	9.58±9	0.037*	5.7±6.1	7±6.4	0.596
Beck Anxiety Score	13.1±10.6	10.1±9	0.032*	4.7±1.9	6.8±8.2	0.255
Rosenberg Self-Esteem Score	1.016±0.8	1.04±0.7	0.263	0.92±0.6	0.96±0.7	0.878
Body image perception score	141.2±26.9	151.1±24.9	0.010*	147.7±30	154.6±38.7	0.596

number of patients with mild, moderate, and severe AV was 20, 144, and 88, respectively (demographic data are summarised in Table 1). Male gender was significantly more in patients with severe AV (P<0.001). Beck Depression Score and Beck Anxiety Score were significantly higher in patients with mild/moderate AV than in patients with severe AV (P=0.008, P=0.010 respectively). Body Image Perception score was significantly higher in patients with severe AV than in patients with mild/moderate AV (P=0.005).

While 95 of the patients (mild/moderate AV: 69 patients, severe AV: 26 patients) had a history of previous treatment for AV, 157 (mild/moderate AV: 95 patients, severe AV: 62 patients) had no history of any treatment for AV. When the patients were divided into two groups as those who had previously received treatment for AV and those who had not, Beck Anxiety Score was significantly lower in the mild/moderate AV group than in the severe AV group, while Body Image Perception was significantly higher than in the severe AV group. (P=0.027, P=0.001 respectively). In the previously treated patient group, there was no significant difference between the mild/moderate and severe AV groups (Table 2).

When the patients were divided into two groups as a femal group and a male grou, In the female patient group, Beck Depression and Beck Anxiety Scores were significantly lower in the mild/moderate AV group than in the severe AV group, while Body Image Perception was significantly lower than in the severe AV group (P=0.037, P=0.032, P=0.010 respectively). In the male patient group, there was no significant difference between mild/moderate and severe AV groups (table 3).

Discussion

The most important finding of this study was that depression and anxiety levels were significantly higher in patients with mild/moderate AV than in patients with severe AV and body image perception was significantly higher in patients with severe AV than in patients with mild/moderate AV. In addition, another important finding of this study was that high anxiety and depression scores in mild/moderate AV and high body image perception score in severe AV were associated with not receiving previous treatment and female gender.

In the literature, it has been reported that the frequency of depression and anxiety increases in AV patients, but whether there is a relationship between acne severity and depression and anxiety remains controversial [1, 16]. Karaağaç et al. and Öztürk et al. showed that acne severity was not associated with depression and anxiety. However, in our study, depression and anxiety were found to be significantly higher in mild/moderate AV compared to severe AV. In this respect, our study does not support each other with these two studies. [1]. According to the data obtained in our study, the fact that the high depression and anxiety scores found in patients with mild/moderate AV are due to the patient group who have not received AV treatment before has not been investigated in the literature to our knowledge and the possible reason for this may be the stress caused by the lack of information about the possible treatments of the patients. The possible reason for the higher depression and anxiety scores of patients with mild/moderate AV compared to patients with severe AV may be the thought that the disease has the potential to progress. In previous publications, it has been reported that the clinical features of AV cannot be considered as a determinant of the psychological status of patients. However, although the relationship between the severity of AV and the level of depression and anxiety is controversial, the fact that the anxiety and depression levels of patients who had not previously received treatment for AV and had not been referred to a physician were significantly higher than those of patients who had previously received AV treatment may be a warning for physicians who encounter patients presenting for the first time with AV and it may be useful to keep in mind that these patients will have higher anxiety and depression scores [6]. In this way, it can contribute to preventing the progression of acne by decreasing the stress levels of the patients at the first presentation, previous studies have shown that there is a relationship between AV and stress levels, and it has also been reported that the cause and effect relationship between AV and stress is still controversial [1].

AV has a significant impact on physical appearance due to its localisation in visible parts of the body [17]. Kotekoglu et al. In their study investigating the relationship between internalised stigma and body image perception in AV, they found that the body image perception score of male patients was higher, that is, AV affected physical appearance and body sensation more in men than in women [17]. In our study, body perception scores of women were significantly higher than those of men, and AV affected physical appearance and body sensation more in women. In this respect, the two studies do not support each other. Kotekoğlu et al. stated that the higher body image score of men in their study may be due to the fact that women can camouflage AV by using make-up and men are considered as a negative factor for women in competition with other men. The reason for this difference between the two studies may be regional and cultural differences. On the other hand, the body perception score was significantly higher in patients who had not previously received AV treatment and did not present to the hospital. The reason for this may be that the patients who did not apply before did not have any information about AV treatment, did not have any information about the treatment process, or even the guilt of not making any effort until the application was made. Those who have received treatment before may be aware that they can benefit from the treatment and that benefiting from the treatment creates a better body perception. Knowing that the body image perception scores of patients who have not received treatment for AV before and who have not applied for treatment have higher scores than those who have received treatment before, that is, knowing that they have a worse body perception, taking this into account, explaining the treatment process of the disease and the expectations from the treatment in more detail will accelerate the improvement in the body perception of the patients and increase the well-being in their psychology.

Limitation

This study had some limitations. The first limitation was the absence of a control group without any skin disease or chronic disease. In addition, although there were data on body mass index in our study, eating habits, which are known to be associated with AV, were not evaluated in our study.

Conclusion

In patients with AV, depression and anxiety scores were higher in patients who had not received AV treatment and did not apply for treatment than in patients with a history of AV treatment, and body image perception score was higher in patients who did not receive treatment than in patients with a history of treatment. Knowing that patients who have not received previous treatment for AV and who have not applied for treatment have higher depression, anxiety and lower body image perception may be useful in earlier psychological intervention.

Scientific Responsibility Statement
The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and Human Rights Statement
All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or compareable ethical standards.

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Conflict of Interest
The authors declare that there is no conflict of interest.

References

1. Karaağaç M, Akça HM, Acat Ö. Lack of association of acne severity with depression, anxiety, stress, and eating attitudes: A cross-sectional study. J Pers Med. 2024;14(2):133.
2. Gupta MA, Pur DR, Vujcic B, Gupta AK. Suicidal behaviors in the dermatology patient. Clin Dermatol. 2017;35(3):302-11.
3. Tan JK, Bhate K. A global perspective on the epidemiology of acne. Br J Dermatol. 2015; 172 (Suppl.1):S3-12.
4. Fried RG, Wechsler A. Psychological problems in the acne patient. Dermatol Ther. 2006; 19(4):237-40.
5. Bondade S, Hosthota A, Basavaraju V. Stressful life events and psychiatric comorbidity in acne–a case control study. Asia Pac Psychiatry. 2019;11(1):e12340.
6. Molla A, Alrizqi H, Alharbi E, Alsubhi A, Alrizqi S, Shahada O. Assessment of anxiety and depression in patients with acne vulgaris in medina: A case-control study. Clin Cosmet Investig Dermatol. 2021;6(14): 999-1007.
7. Yoqub F, Bajwa RS, Batool I. Impact of acne vulgaris on self-esteem, body image perception and quality of life among adolescents. JPAD. 2020;30(1):26-31.
8. Haroon MZ, Alam A, Ullah I, Ali R, Taimur MF, Raza K. Quality of life and depression among young patients suffering from acne. J Ayub Med Coll Abbottabad. 2019; 31(3):436-40.
9. Gallitano S, Berson D. How acne bumps cause the blues: the influence of acne vulgaris on self-esteem. Int J Womens dermatol. 2018;4(1):12-7.
10. Hosthota A, Bondade S, Basavaraja V. Impact of acne vulgaris on quality of life and self-esteem. Cutis. 2016; 98(2):121-4.
11. Su P, Chen Wee Aw D, Lee SH, Han Sim Toh MP. Beliefs, perceptions and psychosocial impact of acne amongst Singaporean students in tertiary institutions. J Dtsch Dermatol Ges. 2015;13(3):227-33.
12. Doshi A, Zaheer A, Stiller MJ. A comparison of current acne grading systems and proposal of a novel system. Int J Dermatol. 1997;36(6):416-8.
13. Jackson-Koku G. Beck Depression Inventory. Occup Med (Lond). 2016;66(2):174-5.
14. Öğüt Ç, Öğüt ND. No association between isotretinoin and impulsivity in patients with moderate-to-severe acne vulgaris. Int J Dermatol. 2024;63(4):484-90.
15. Alfahl SO, Almehmadi LA, Alamri RS, Almalki DS, Alnakhli F. Impact of acne vulgaris and vitiligo on quality of life and self-esteem in the patient population of Madinah, Saudi Arabia. Cureus. 2024;16(1):e52586.
16. Tasoula E, Gregoriou S, Chalikias J, Lazarou D, Danopoulou I, Katsambas A, et al. The impact of acne vulgaris on quality of life and psychic health in young adolescents in Greece: Results of a population survey. An Bras Dermatol. 2012;87(6):862-869.
17. Kotekoglu D, Parlakdag A, Koramaz F, Varol G, Aslankoc V, Bozkurt S, et al. Internalized stigma in acne vulgaris and its relationship with quality of life, general health, body perception, and depression. Niger J Clin Pract. 2020;23(9):1289-94.

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